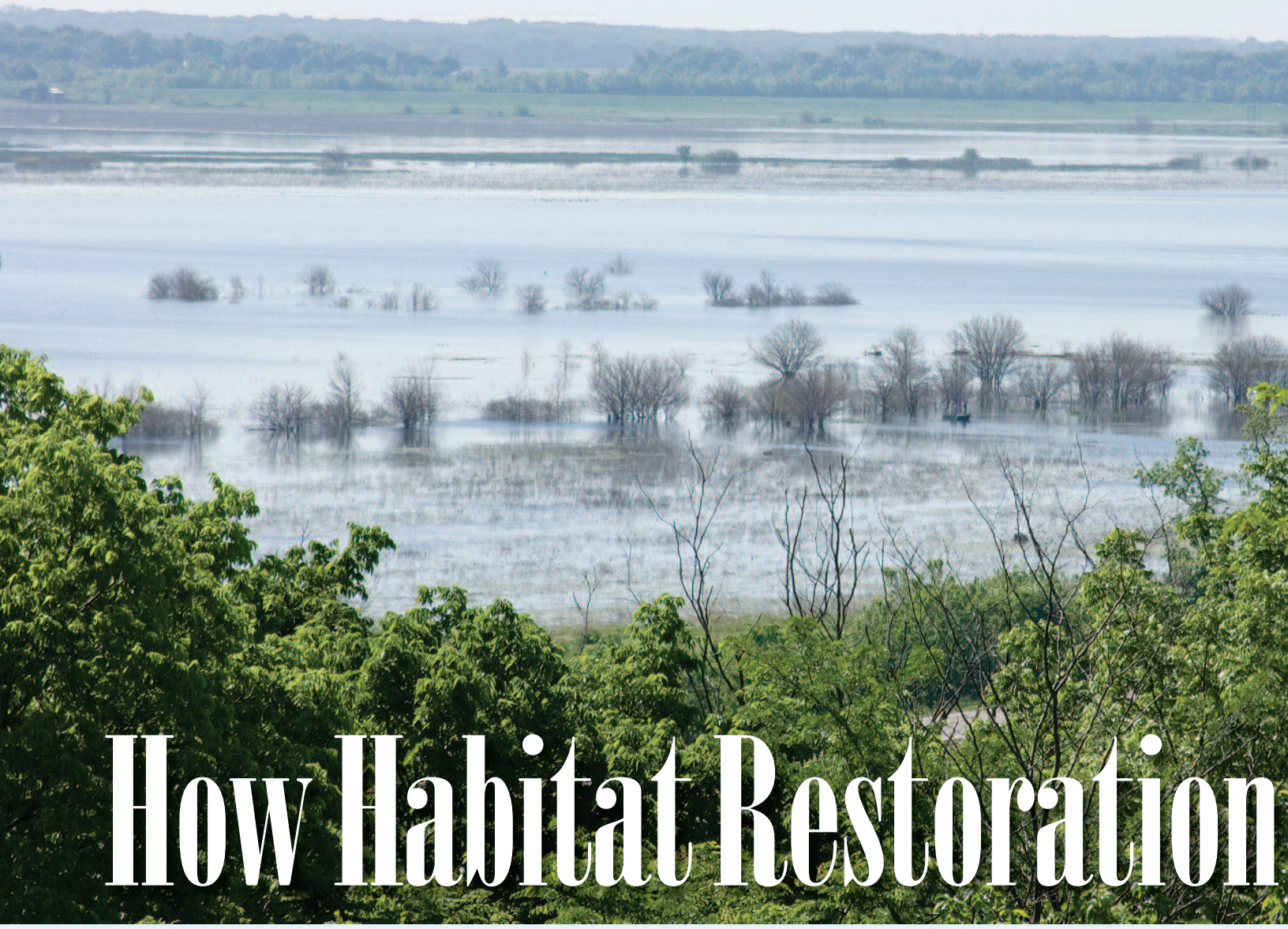
Resurrecting seeds and a wetland from long ago created more than just hab



How Habitat Restoration

Story By Michael Wiant
Photos By Kelvin Sampson

In late February 2011, an estimated 250,000 snow geese spent several days on the restored Thompson Lake in The Nature Conservancy's Emiquon Preserve, located between Havana and Lewistown. The birds huddled together in a vast floating community and then, for no apparent reason, they took flight in what appeared to be a feathered cyclone rising skyward.

This spectacle is but one of the many natural wonders Emiquon visitors have witnessed since restoration of the area began in 2007 (see *Outdoor*Illinois, December 2008). Foremost, renewal of the wetlands in the stretch of the Illinois River Valley north of the Spoon River confluence has illustrated the tenacity and transformative power of nature. Cattails appeared shortly after water pooled in the Thompson Lake basin; their seeds had been dormant for nearly eight decades. Soon thereafter, lotus and myriad other wetland plants emerged from their slumber despite passing the decades in cultivated fields. Then animals of all shapes and sizes, from dragonflies to otters, arrived to find their niche in this new neighborhood of nature. The transformation from cultivated field to flood plain wetland has been profound and remarkably rapid.

The re-creation of Emiquon, undertaken by The Nature Conservancy and the U. S. Fish and Wildlife Service, has

As one descends the Illinois Valley bluffs on Illinois Route 78/97, the Emiquon Preserve spans the horizon (left).

(Photo courtesy Elizabeth Gray.)

itat at Emiquon Preserve.

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(Photo courtesy Jane Ward.)

Thousands of snow geese gather annually at Thompson Lake.

propagated many other opportunities. For example, the extraordinary potential for research, education and recreation gave rise to the Emiquon Partnership. In addition to The Nature Conservancy and U. S. Fish and Wildlife Service, the University of Illinois-Springfield and the Department of Natural Resources, Illinois State Museum-Dickson Mounds form the core of the partnership. Other partnership affiliates include the Illinois Natural History Survey's Forbes and Illinois River Biological Stations, Emiquon Audubon Society, Emiquon Corps of Discovery, Havana Nature Center, Illinois Valley Archaeological Society, Ducks Unlimited and Illinois River Road National Scenic Byway. Working together, these organizations use the power of private-public partnership to undertake large-scale initiatives and activities that require resources beyond those of a single organization.

The nearby Chautauqua National Wildlife Refuge and the Illinois River have long been the subjects of biological research, largely directed by the Illinois Natural History Survey's Forbes and Illinois River stations. Among a distinguished legacy of research are landmark studies on wetland ecology, waterfowl and the Illinois River fishery.

The restoration of more than 6,000 acres of Illinois River flood plain provides an extraordinary opportunity for new research. In a sense, Emiquon is an enormous petri dish in which one can study the myriad processes engaged by restoration and those that sustain wetlands. Scientists have come to Emiquon from nearby and far afield. In particular, this opportunity encouraged the University of Illinois-Springfield to establish a biological field station at Emiquon. The Alfred O. and Barbara Cordwell Therkildsen Field Station at Emiquon has laboratories, classrooms and overnight accommodations. It has become headquarters for a variety of studies ranging from micro-organisms, the foundation of wetland life, to tree planting.

The restored Thompson Lake attracts a variety of wetland-associated birds, such as great egrets, pelicans and great blue herons.

Using a geoprobe, drillers extracted cores of sediment to depths of more than 40 feet. Upon examination, the cores chronicle the history of the Illinois River.

To learn more about the hydrology of the Illinois River floodplain, The Nature Conservancy consulted with the Illinois State Water Survey and a fluvial geomorphologist—an earth scientist concerned with the behavior of rivers and streams. Cores of sediment—some reaching a depth of 50 feet where they encountered 300-million-year-old bedrock—chronicle the history of the Illinois River in unprecedented detail. Here is found evidence for the late Ice Age Kankakee Torrent, a 16,000-year-old outburst flood that gave rise to the size, shape and character of the Illinois River Valley, the long-term development of floodplain wetlands, and the re-deposition of upland sediment that nearly choked the life out of the floodplain lakes.

At nearby Dickson Mounds Museum, archaeologists continue to explore the long record of human history. This summer, two university field schools, one from Michigan State University, the other from the University of California-Santa Barbara, excavated at ancient Native American villages. Between 900 to 700 years ago, residents of the Morton village site located on the bluff overlooking Thompson Lake, sustained life by drawing on the food resources of nearby wetlands and other habitats.

Michigan State University archaeologists have been excavating the Morton site, an ancient Native American village located on the bluffs overlooking Thompson Lake.

Carefully sifting sediment from the village, archaeologists found bone, mussel shell and carbonized plant remains, all testimony to the nature of this place and the resources its people relied on for food, tools, clothing and shelter.

For the past three years, more than four dozen scientists engaged in research at Emiquon have assembled at Dickson Mounds for a day-long conference to present their findings and plan for future research. The topics include the aforementioned micro-organisms, rare and endangered plant and fish species, stomach contents of large-mouth bass, the daily movement of mallards and human use of the land through time, to mention but a few. Taken together, each study contributes a better understanding of "how the world works" and, more specifically, the intricate web of life that provides a foundation for undertaking future restoration projects. The conference also provides an opportunity for students to share their work, an important step in their development as future scientists.

Research is the foundation of educational programs and exhibits and Dickson Mounds Museum is an extraordinary venue to articulate the story of humanity and its interdependence with nature. The new Emiquon Gallery on the Museum's third floor features information about the geological history of the river valley and the remarkable transformation of the landscape. Members of the Emiquon Corps of Discovery, a group of citizen volunteers trained by Michael Jeffords, Susan Post and Carrie Nixon, Illinois Natural History Survey, document with pen, paintbrush and photo the development of Emiquon. These volunteers provided much of the artwork for the new exhibit and assisted museum staff in exhibit construction.

Science lectures on subjects such as astronomy—the night sky above Emiquon is unforgettable—migratory birds and mushrooms are sponsored by the University of Illinois and Dickson Mounds and they are open to the public free-of-charge.

On June 4, 2011, The Nature Conservancy dedicated its new lake and wetland observatories on the west bank of Thompson Lake. Winding roads and trails encourage the visitor to explore habitats that form the foundation of flood plain ecology. From an observation tower with a spotting scope and a pier extending into the lake, one has an opportunity to see first-hand how nature works. Both venues are enriched by educational exhibits that relate Illinois River history and the importance of wetlands and their restoration. And for those more intrepid, one can travel onto the lake in a canoe, kayak or boat with an electric trolling motor to explore wildlife with binoculars and cameras or to fish. Depending on the season, birders will be treated to egrets, herons, pelicans, eagles, cormorants and many more species. For example, once rare, more than 70 black-necked stilts were seen in one day this year. Stocked by DNR, the largemouth bass and crappie fishery in particular has drawn more than 3,000 anglers per year from far afield.

Emiquon also is a prominent feature of the Illinois River Road National Scenic Byway that runs on both sides of the river between Ottawa and Havana. As such, Emiquon and many other attractions along the river are brought to the attention of a wide national audience.

To find out more about Emiquon and its upcoming events, go to ***experienceemiquon.com***, a Web site that features information about the project and all participating partners and their affiliates. You'll also have an opportunity to see a brief videoclip of snow geese on the wing at Emiquon.

Synergy is a process by which the sum of the parts is greater than the whole. The Emiquon Partnership, citizens, not-for-profit organizations, universities, and state and federal government agencies, have combined their resources to create research, education, recreation and life-enriching opportunities at Emiquon that would not have been possible by their individual efforts alone. At Emiquon, each individual's contributions have become magnified because they have chosen to work together for the benefit of citizens and nature.

If you build it, they will come. And come they have. From iridescent dragonflies to international scientists and now the public—boaters, birders and day-tripping families—wetland restoration is drawing a crowd at Emiquon.

For an overview of the Emiquon project, stop by Dickson Mounds Museum and view the newly renovated Illinois River Gallery, then enjoy time on the preserve kayaking, birding or fishing.

At a glance

Illinois State Museum, Dickson Mounds Museum, 10956 North Dickson Mounds Road, Lewistown, IL 61542
Telephone: (309) 547-3721
Web site: http://www.museum.state.il.us/ismsites/dickson
Directions: Dickson Mounds is located in Fulton County, along Route 78/97.

Emiquon Preserve
The Nature Conservancy
Telephone: (309) 547-2730
Web site: www.nature.org/ourinitiatives/regions/northamerica/unitedstates/illinois/placesweprotect/emiquon.xml
Directions: The Public Use Area at the Emiquon Preserve is located along Route 78/97 2.5 miles north of Route 136.

Emiquon National Wildlife Refuge
Telephone: (309) 535-2290
Web site: http://www.fws.gov/refuges/profiles/index.cfm?id=33654
Directions: Emiquon Refuge is located at the confluence of the Spoon and Illinois rivers in Fulton County. Situated just west of Havana, on Route 78/97, the refuge is accessible by Highway 24 from Peoria or Lewistown, and Highway 136 from Havana.